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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,318	10/28/2003	Jorge Guillermo Milke-Rojos	130699	4851

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Dean D. Small
Armstrong Teasdale LLP
Suite 2600
One Metropolitan Square
St. Louis, MO 63102

EXAMINER

JIANG, CHEN WEN

ART UNIT

PAPER NUMBER

3744

DATE MAILED: 05/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/695,318

Applicant(s)

MILKE-ROJO ET AL.

Examiner

Chen-Wen Jiang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. The amendments and arguments presented by the applicant have been duly noted. However, an update search and further review of the prior art of record has prompted the presentation of new rejections presented below. In view of such, the previous rejections in the first office action have been withdrawn.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Levinson et al. (U.S. Patent Number 6,098,408) in view of Ariga et al. (JP 03041787).

Referring to Fig.4, one notices the teachings claimed by the applicant, namely a temperature regulator (48) for an X-ray device (22, Fig.1, col. 1, line 25), comprising a controller (60), which receives data from the temperature sensor (54), determines whether the temperature should be raised or lowered (col.7, lines 30-42) and switches (using the voltage driver 110, Fig.5) the voltage/current contact in the solid state (col.4, line 55) thermoelectric device (30), comprising a positive and a negative mode (48, 50, Fig.3) directly connected to a voltage source (col.5, lines 60-61). Levinson et al. also disclose the heat dissipation plate (20) in contact with the X-ray panel (22) and the heat dissipation plate (20) is connected to the thermoelectric device (30). An external cooling device, a heat sink (32), is connected to the thermoelectric device (50)

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removing the thermal energy from it. Levinson also teaches that reversing the direction of current reverses the direction of heat pumping, thereby accomplishing the same function as reversing the voltage contact (col.3, lines 9-13). Levinson therefore, discloses applicant's basic inventive concept, substantially as claimed with the exception of stating a cold plate in thermal contact with said heat dissipating plate via a heat pipe and the temperature range of 25- 35⁰C under which the device will be kept. However, Ariga et al. teach using heat pipe to exchange heat between the heat dissipating plate and the cold plate to be old in the thermoelectric art. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made from the teachings of Ariga et al. to modify the system of Levinson, by adding a heat pipe to transfer heat from heat dissipation plate.

In regard to the predetermined temperature range, it is a design choice based on the optima operation condition of the instrument.

4. Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Levinson et al./Ariga et al. as applied to claim 16 above, and further in view of Batchelor et al. (U.S. Patent Number 6,446,442) or Van Winkle (US 2004/0025516).

Levinson et al./Ariga et al. disclose the invention substantially as claimed. However, Levinson et al./Ariga et al. do not disclose external cooling device. External cooling device is known prior art to remove heat. Batchelor et al. and Van Winkle disclose an external cooling device in the same field of endeavor for the purpose of removing heat. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the apparatus of Levinson et al./Ariga et al. with an external cooling device in view of Batchelor et al. or Van Winkle so as to remove heat.

In regard to the distance, it is a design choice to locate the system.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chen-Wen Jiang whose telephone number is (571) 272-4809.

The examiner can normally be reached on Monday-Thursday from 8:00 to 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571) 272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chen-Wen Jiang
Primary Examiner

A handwritten signature in black ink, consisting of a series of loops and a long horizontal stroke, positioned to the right of the name and title.